

## ABSTRACT

A position detection apparatus including a detection unit for an absolute track including a plural number of ABS heads for absolute track, in which the separation between neighboring heads is broadened. The n ABS heads 10-1 to 10-n are arrayed to satisfy the following equations 1 and 2 when n is an even number and the following equations 1 and 3 when n is an odd number:

$$\lambda_1 = m\lambda, m \text{ being an integer not less than } 2 \quad \cdots(1)$$

$$\lambda_1 \neq k(2^{n/2} + 1)\lambda, k \text{ being a natural number} \quad \cdots(2)$$

$$\lambda_1 \neq k(2^n + 1)\lambda \quad \cdots(3).$$

By arraying the ABS heads 10-1 to 10-n under these conditions, the separation between neighboring ones of the ABS heads 10-1 to 10-n can be  $2\lambda$  or larger.